(1/2" – 2") Type AN Pneumatically Actuated Diaphragm Valve Specification

PART 1: SCOPE

All requirements for Asahi America, Inc. Type 14 Pneumatically Automated Diaphragm Valve in sizes ½" through 2" with Type AN Pneumatic Actuator.

PART 2: MATERIALS

- PPG
- Stainless steel
- PC
- BUNA-N
- Copper alloy
- PVC
- CPVC
- PP
- PVDF
- PTFE
- EPDM

PART 3: SPECIFICATIONS

Type AN Single Acting (A-S) & Double Acting (A-A) Models

Single Acting Model	Single Acting Function	Single Acting Fail Mode	Air Supply Pressure	Max Operating Temperature
AN-1AO (1/2"-3/4" Valve)	Air Open/Spring Close	Fail Close	60psi min / 90psi max	150° F
AN-2AO (1"-1 ¼" Valve)	Air Open/Spring Close	Fail Close	60psi min / 90psi max	150° F
AN-3AO (1 ½" Valve)	Air Open/Spring Close	Fail Close	60psi min / 90psi max	150° F
AN-4AO (2" Valve)	Air Open/Spring Close	Fail Close	60psi min / 90psi max	150° F

Double Acting Model	Double Acting Function	Air Supply Pressure	Max Operating Temperature
AN-1DA (1/2"-3/4" Valve)	Air Open/Air Close	60psi min / 90psi max	150° F
AN-2 DA (1"-1 ¼" Valve)	Air Open/Air Close	60psi min / 90psi max	150° F
AN-3 DA (1 ½" Valve)	Air Open/Air Close	60psi min / 90psi max	150° F
AN-4 DA (2" Valve)	Air Open/Air Close	60psi min / 90psi max	150° F

3.1 Description

Asahi/America, Inc. shall use the Type AN pneumatic actuator for Type 14 diaphragm valve sizes ½" – 2". Actuators shall be of a pneumatic linear design, and be constructed of PPG. There shall be two versions per valve size; Single Acting (air to open/spring to close) and Double Acting (air to open/air to close) for various applications. Actuators shall accept a clean and filtered instrument air supply of 60psi at a minimum and 90psi at a maximum.

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3.2 Standard Features

- PPG actuator housing
- Stainless steel trim
- NAMUR solenoid pad
- Compact design
- Lightweight
- Direct mount to valve
- Excellent throttling capability
- Full vacuum rated

3.3 Approved Manufacturer

Type AN Pneumatically Actuated Diaphragm Valves shall be provided by Asahi/America, Inc. Manufacturer to be ISO-9001 certified.

PART 4: ACCESSORIES

4.1 Electro-Pneumatic Positioner (4-20mA)

An Electro-Pneumatic Positioner, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be direct mounted to the top accessory mount of the Type AN pneumatic diaphragm valve actuator. Positioner shall be of the SMART, Auto-Cal design and accept a 4-20mA signal with a recommended air supply of 60psi – 90psi. Positioner shall include a transmitter as well as a manual override in case of signal loss.

Optional items shall include limit switches and/or Intrinsically Safe models.

4.1.A Electro-Pneumatic Positioner Materials

- Aluminum housing with a polyester powder coat finish
- Stainless steel
- PC
- HDPE
- Nickel

4.2 Pneumatic Positioner (3-15psi)

A Pneumatic Positioner, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be direct mounted to the top accessory mount of the Type AN pneumatic diaphragm valve actuator. Positioner shall be of the low air consumption design and accept a 3-15psi signal with a recommended air supply of 60psi – 90psi. Positioner shall include pressure gauges as well as withstand high vibration applications.

4.2.A Pneumatic Positioner Materials

- Aluminum housing with a polyester powder coat finish
- Stainless steel
- PC
- HDPE
- Nickel

4.3 Direct Mount Solenoid

A direct mount Polyamide solenoid shall be direct mounted to the NAMUR mount on the face of the Type AN pneumatic diaphragm valve actuator. Solenoid shall be NEMA Type 4X and be equipped with a 120 VAC Class F coil. Solenoid features shall include speed controls, mufflers, manual override and the ability to be used as 3/2 or 5/2 depending on gasket orientation during the assembly process.

Optional items shall include various voltage coils, and/or Hazardous Locations endorsement.

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4.3.A Direct Mount Solenoid Materials

- Polyamide
- Stainless steel
- NBR

4.4 Engineered Resin Double Limit Switch

An Engineered Resin Double Limit Switch, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be direct mounted to the top accessory mount of the Type AN pneumatic diaphragm valve actuator. 2-SPDT proximity switches with Form C Contacts shall be rated 1A@24 VDC (0.15A@240 VAC), and double limit switch enclosure shall be provided with a dome style visual position indicator (Black/Yellow), and be of the NEMA 4X design.

4.4.A Engineered Resin Double Limit Switch Materials

- Engineered resin
- Stainless steel
- Co-polyester

PART 5: INSTALLATION PROCEDURES

Installation practices should follow all local codes and regulations, plant/jobsite codes and regulations, and be performed by adequately trained or licensed personnel. Installation practices should also follow all manufacturers guidelines, standards, and requirements set forth in Type AN installation, operation and maintenance manuals. All accessories should be installed in accordance with the manufacturers requirements as well as any facility requirements.